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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/431,581	11/01/1999	HENDRIKUS J. GRUTTER	PHN-17159	8896

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER

HA, YVONNE QUY M

ART UNIT	PAPER NUMBER
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2664

DATE MAILED: 02/25/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/431,581

Applicant(s)

GRUTTER, HENDRIKUS J.

Examiner

Yvonne Q. Ha

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

*Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tezuka, (US Patent 6,331,989) in view of Huang et al. (US Patent 6,052,384).

Referring to claims 1, 2, and 8-11, the Tezuka discloses a communication system comprising a first node having a multiplexer (i.e. transmitter) (figure 1, reference 1) for multiplexing a plurality of source signals into a multiplex signal (figure 1, references A-D), the first node comprises transmission means for transmitting the multiplex signal to a second node (figure 1, reference 9), a demultiplexer (i.e. receiver) for demultiplexing the multiplex signal into source signals (figure 1, reference 2, E-H; col.2, lines 52-59; figures 1-3), characterized in the multiplexer is arranged for introducing a variable length auxiliary signal into the multiplex signal (col. 3, lines 23-24, signals for multiplexing and demultiplexing including variable length type signals). Tezuka does not expressly disclose the length of the variable length auxiliary signal being dependent on an aggregate rate of the source signals to be transmitted. However, Huang discloses a statistical multiplexer where all of the information needed to determine the rates is available within the multiplexer itself (i.e. for any kind of bit stream for which it is able to determine an output rate on the basis of information read from the bit stream, and adjustment of the output rates does not affect the contents of the bit stream (col. 5, lines 41-57). The multiplexer allocates bandwidth to the bit streams by giving each bit stream its minimum

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allowable rate and then allocating any remaining bandwidth to the bit streams up to the maximum rate for each stream. Allocation of the remaining bandwidth for a bit stream is done proportionally to the difference between the maximum and minimum rates for the bit stream (col. 5, lines 58-66). In addition, Huang discloses that each of the channels (carrying packets containing bits from variable rate bit stream in a set of channels will be carrying bits at a different bit rate and the bandwidth need only be large enough at that moment of time to transmit what the channels are presently carrying. The output of the channels is analyzed to determine what the actual maximum rate of output for the entire set of channels will be and the bandwidth is sized to satisfy that actual peak rate. Statistical multiplexing permits a channel to have a slot in time slice which varies in length to suit the actual needs of channel during that time slice, i.e. a time slice with varying length slots (figure 2, references 211, 214, 215; col. 4, lines 1-48). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Tezuka multiplex/demultiplexing with Huang statistical multiplexing with a time slice varying length slots. The packet networks today make no guarantees about when or what order the data in a burst of data will arrive at its destination. The transmission of variable rate bit streams with time multiplexing of several bit streams onto a transmission medium was introduced (i.e. statistical multiplexing). As Huang discloses, variable rate bit stream is a sequence of compressed data of variable length (i.e. digital pictures). The length of a picture depends on the image it represents and the types where the rate can be varied.

3. Claims 3-4, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tezuka, (US Patent 6,331,989) in view of Huang et al. (US Patent 6,052,384) and in further view of Park et al. (US Patent 6,529,528).

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Referring to claims 3 and 12, Tezuka and Huang disclose all aspects of the claimed inventions but failed to teach auxiliary signal assumes zero value. However, Park teaches the length of variable auxiliary signal can assume value zero if the data field comprises a predefined length (col.4, lines 26-27). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Tezuka multiplex/demultiplexing with Huang statistical multiplexing with a time slice varying length slots, and Park teaches the length of variable auxiliary signal and to have the auxiliary signal as zero value because the flag values contain bit pattern.

Referring to claim 4, Tezuka and Huang disclose all aspects of the claimed invention but failed to teach multiplexing frame and converting sync code. However, Park teaches the multiplexing the data of a predetermined frame and converting an 8-bit sync code forming a flag (col. 3, lines 34-36). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Tezuka multiplex/demultiplexing with Huang statistical multiplexing with a time slice varying length slots, and Park teaches the length of variable auxiliary signal and to extract the auxiliary signal out of the main signal because auxiliary signal contains control information referenced to the frame.

4. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tezuka (US Patent 6,331,989), Huang et al. (US Patent 6,052,384) and in view of Park et al. (US Patent 6,529,528) and in further view of Kurobe et al., (US Patent 6,233,251).

Referring to claim 5, Tezuka, Huang, and Park disclose all the aspects of the claimed invention but failed to disclose using the length field to extract the source signal. However, the Kurobe et al. reference discloses the multiplex frame is a fixed length including a header and a fixed-length field (col. 4, lines 57-65). At the time of the invention, it would have been obvious to a person of ordinary skill in

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the art to combine the teaching of Tezuka multiplex/demultiplexing with Huang statistical multiplexing with a time slice varying length slots, and Park teaches the length of variable auxiliary signal and to use the length field in the multiplex frame of the Tezuka's reference to carry the source signal across the transmission link and to extract the signal from the frame at the demultiplexer, thereby accurately recovering the source information.

Referring to claims 6 and 7, Tezuka, Huang, and Park disclose all the aspects of the claimed invention, and further taught that the method of multiplexing and demultiplexing the variable length data packet signal type by performing the bit multiplexing and demultiplexing respectively. Tezuka, Huang, and Park failed to disclose the length field definition with a first number of symbols. However, the Kurobe discloses the multiplex frame includes a fixed length field with two variable-length slots. The length of the first variable-length slot is a predetermined fixed length when data to be stored exists and is zero with no data to be stored. The length of the second variable-length slot is increase or decreased depending on the first variable-length slot (col. 4, lines 20-67). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Tezuka multiplex/demultiplexing with Huang statistical multiplexing with a time slice varying length slots, Park teaches the length of variable auxiliary signal, Kurobe fixed length field with two variable-length slots and to define the comparison logic of 1 or greater than 1 between the first number of symbol and the second number of symbol because it is conventional in the length field with variable length.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Reeves et al. (US Patent 4,727,536) discloses variable control and data rates in highly efficient multiplexer

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvonne Q. Ha whose telephone number is 703-305-8392. The examiner can normally be reached on Monday-Friday 7a.m.-4p.m. Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 703-305-4798. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3988 for regular communications and 703-305-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

YQH

  
Ajit Patel  
Primary Examiner